

Appendix 3.2A

The Legend of Rice Grains



A long time ago, a man invented a fun game of moving small objects on a board divided into squares.

He continually modified it until it became the chess game we know today: a game in which two opponents move pieces on a 64-squared array in order to capture the opponent's King. The King of the land was so delighted that he wanted to offer the man a reward.

The man thought about it for a long time and said to the King, *"I am now very rich and well-known, I no longer desire anything."*

The King became very angry, since it was very disrespectful to refuse a gift from the King. He ordered him to communicate a desire.

The man thought about it for a long time, and at last said to the King, *"Here is my desire. I want you to place a grain of rice in the first box of the board and double the amount until the 64 squares are filled. You will then give this rice to the people of the village."*

Appendix 3.2B

Use a calculator to continue determining the number of grains of rice to put on each of the squares, at least up to the 10th square. Write the numbers in the appropriate boxes.

| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 1 | 2 | 4 | 8 | — | — | — | — |
| — | — | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |
| | | | | | | | |

Some people say that the man had an odd desire by asking something as simple as putting grains of rice on the squares.

What do you think? Explain why and justify your answer.